Amendments to the Claims:
Please cancel claims 1-16 and 21 without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1- 16. (canceled)

Claim 17. (currently amended) A method of ~~sorting~~ classifying ~~antigen-specific~~ sibling monoclonal antibodies (mAbs) into functional groups, comprising:

(a) immobilizing the antigen onto at least two biosensor surfaces;

(b) treating each biosensor surface with a different agent, wherein each agent is capable of ~~altering the structure~~ modifying a surface of the immobilized antigen;

(c) exposing each treated biosensor surface to ~~the antigen-specific mAbs~~ a ~~monoclonal antibody~~ each mAb ~~that is specific for the antigen~~;

(d) determining ~~the~~ a binding profile for each mAb ~~of the monoclonal antibodies to each treated biosensor surface~~; and

(e) ~~sorting~~ classifying the mAbs into functional groups based on ~~a~~ the binding profiles ~~of the monoclonal antibodies to each treated biosensor surface~~, wherein mAbs that exhibit similar binding profiles to each treated sensor surface are ~~sorted~~ classified into the same functional group.

Claim 18. (currently amended) The method of claim 17, wherein the agents ~~capable of altering the structure of the immobilized antigen are~~ is an enzymes.

Claim 19. (currently amended) The method of claim 18, wherein the enzymes ~~are~~ is a proteolytic enzymes selected from the group consisting of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C.

Claim 20. (currently amended) The method of claim 17, wherein the agents ~~capable of altering the structure of the immobilized antigen are~~ is a chemical agents selected from the group consisting of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 21. (Canceled)

Claim 22. (new) The method of claim 17, wherein the at least two biosensor surfaces are four to nine surfaces.

Claim 23. (new) The method of claim 17, wherein the agent is an enzyme and a chemical agent.

Claim 24. (new) The method of claim 23, wherein the agent is selected from the group consisting of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, endoproteinase Arg-C, Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 25. (new) A method of classifying sibling monoclonal antibodies (mAbs) into functional groups, comprising:

(a) immobilizing the antigen onto at least two biosensor surfaces;

(b) treating each biosensor surface with a different modifying agent, wherein the agent is selected from the group consisting of proteolytic enzymes and chemical agents;

(c) exposing each treated biosensor surface to each mAb;

(d) determining a binding profile for each mAb; and

(e) classifying the mAbs into functional groups based on the binding profiles, wherein mAbs that exhibit similar binding profiles to each treated sensor surface are classified into the same functional group.

Claim 26. (new) The method of claim 25, wherein the proteolytic enzymes are one or more of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C, and the chemical agents are one or more of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 27. (new) The method of claim 25, wherein the at least two biosensor surfaces are four to

nine surfaces.

Claim 28. (new) A method of classifying sibling monoclonal antibodies (mAbs) into functional groups, comprising:

(a) immobilizing the antigen onto two to nine biosensor surfaces;

(b) treating each biosensor surface with a different modifying agent, wherein the agent is selected from the group consisting of proteolytic enzymes and chemical agents;

(c) exposing each treated biosensor surface to each mAb;

(d) determining a binding profile for each mAb; and

(e) classifying the mAbs into functional groups based on the binding profiles, wherein mAbs that exhibit similar binding profiles to each treated sensor surface are classified into the same functional group.

Claim 29. (new) The method of claim 28, wherein the proteolytic enzymes are one or more of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C, and the chemical agents are one or more of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 30. (new) A method of classifying a set of monoclonal antibody (mAb)-producing hybridoma clones specific to a single antigen into functional groups, comprising:

(a) immobilizing the antigen onto at least two biosensor surfaces;

(b) treating each biosensor surface with a different agent, wherein each agent is capable of modifying a surface of the immobilized antigen;

(c) exposing each treated biosensor surface to supernatant from a mAb-containing clone culture;

(d) determining a binding profile for each mAb-containing clone culture; and

(e) classifying the mAb-containing clone cultures into functional groups based on the binding profiles, wherein mAb-containing hybridoma clones that exhibit similar binding profiles to each treated sensor surface are classified into the same functional group.

Claim 31. (new) The method of claim 30, wherein the agent is an enzyme.

Claim 32. (new) The method of claim 31, wherein the enzyme is a proteolytic enzyme selected from the group consisting of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C.

Claim 33. (new) The method of claim 30, wherein the agent is a chemical agent selected from the group consisting of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 34. (new) The method of claim 30, wherein the agent is an enzyme and a chemical agent.

Claim 35. (new) The method of claim 34, wherein the agent is selected from the group consisting of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, endoproteinase Arg-C, Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 36. (new) The method of claim 30, wherein the at least two biosensor surfaces are four to nine surfaces.